Novell® ZENworks® Asset Management

Administrative Best Practices and Troubleshooting

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WHITE PAPER

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Novell ZENworks Asset Management:
Administrative Best Practices
and Troubleshooting

Getting the Most Out of Novell® ZENworks® Asset Management

The award-winning asset tracking and discovery tools in Novell® ZENworks® Asset Management integrate asset inventory, software usage and license reconciliation to provide unmatched accuracy for a true accounting of your hardware and software assets. ZENworks Asset Management ensures license compliance and eliminates both software overspending and audit stress: you purchase only the licenses your organization needs and you can easily find and reconcile purchased licenses with installed applications.

So that you may fully realize the benefits of Novell ZENworks Asset Management, this white paper is designed to provide you with an overview of best practices, configuration options and troubleshooting tips. The suggestions made are based on the experiences of the Novell Consulting® and the Novell Technical Support Team. (Full instructions on how to work with the various ZENworks Asset Management functions are available in the online help programs for the ZENworks Asset Management Manager, Web Console and Remote Client Remote Install utility. You can also refer to the *ZENworks Asset Management User's Guide*, which is available in PDF format on the CD image.)

MAINTENANCE TASKS

Asset management starts with an accurate inventory of the IT assets in your organization. The first section of this white paper details the tasks you should run to keep your database up to date.

All of the following tasks are addressed:

- **Automated tasks**
  - Client Reconciliation/Differentiation
  - Network Discovery
  - Recognition Updates
  - Product Live Update
  - Database Purge
  - Database/File Store Backups
  - Tracking Lost & Found Components
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Automated Tasks

The tasks described in this section can be configured initially and left alone. You should revisit the settings periodically, however.

Client Reconciliation/Differentiation

Reconciliation and differentiation settings control how ZENworks Asset Management handles new Workstation IDs. An ID is requested when the ZENworks Asset Management Client is installed on the workstation or if the registry key for the client is missing. The default ZENworks Asset Management settings are as follows:

- **Reconciliation**. ZENworks Asset Management checks if the workstation is already in the database.
- **Differentiation**. ZENworks Asset Management ensures that the workstation has a unique ID.

To revise the settings, see "Client Reconciliation/ Differentiation Settings" on page 8.

Network Discovery

You can create Network Discovery tasks to identify devices such as routers, switches, hubs, servers, workstations and printers automatically. These tasks can be configured to run at a specific time and to cover one or more subnets or IP ranges.

If you have distributed Collection Servers, it is a good idea to install Task Servers to the same workstations. You can then create multiple tasks, each assigned to the "local" Task Server.

Hint: *Include the scheduled time and a brief description in the name of the task, so that you can easily identify it in the list of scheduled tasks displayed on the* Tasks *tab of the Process Control Panel.*

You can access the results of the Network Discovery module from the Web Console.

Recognition Updates

On the first business day of each month, Novell posts the monthly Product Recognition Updates (PRUs) to our Web site. PRUs include hundreds of new hardware and software products that ZENworks Asset Management will now recognize automatically. Updates can be scheduled or applied manually. Select **Product Recognition Update** from the *Administration* menu for either option.

Hint: *Include the scheduled time in the name of the PRU task, so that you can easily identify it in the list of scheduled tasks displayed on the* Tasks *tab of the Process Control Panel.*

Product Live Update

Updates to ZENworks Asset Management software are released on an as-needed basis through the Novell Web site. These updates are created in response to issues discovered in the field or as a result of continuing product development.

Select **ZENworks Asset Management Live Update** from the *Administration* menu to set your preferences for downloading and installing updates. You can choose to handle these processes in one of following ways:

- **Periodic check for updates**. You can configure ZENworks Asset Management to check the Novell Web site periodically and alert you if updates are available. The alert will appear

in the status bar of the ZENworks Asset Management Manager. You can then install the updates via either of two methods:

  - **Manual download and update**. You can download the updates from the Novell Web site and install them yourself.
  - **One-step update and install**. You can have ZENworks Asset Management download all available updates and install them automatically.

- **Automated update schedule**. You can also schedule ZENworks Asset Management to check the Novell Web site periodically, downloading and installing any available updates automatically.

  In most cases, updates can be applied in a few minutes. The actual time required for the distribution of updates to ZENworks Asset Management applications depends on the available network resources. Stopping and restarting the inventory process may consume additional time.

Note: *You should back up your database and file store prior to applying any updates. See "Database / File Store Backups" below.*

Database Purge

It is important to schedule a regular database purge to remove deleted information from the database. To schedule a database purge, follow these steps:

- **Step 1**. Configure how long data is to be kept in the database. (From the ZENworks Asset Management Manager, select **Enterprise Options** from the *Tools* menu.)
- **Step 2**. Schedule one or more purge tasks. (Select **Database Purge** from the *Administration* menu.)

Hint: *Include the scheduled time and a brief description in the name of the task, so that you can easily identify it in the list of scheduled tasks displayed on the Tasks tab of the Process Control Panel.*

Database / File Store Backups

Database servers should be backed up on a regular basis. ZENworks Asset Management conforms to your normal backup schedule.

Whenever you back up your database servers, you must back up the file store directory as well. If you ever need to restore your database, you will need to restore the corresponding file store.

Tracking Lost & Found Components

Lost & Found components have an asset tag or a serial number that was associated with a workstation in a previous inventory, but is no longer associated with that workstation or any other in the database. If you choose to track components using the Lost & Found workstation, it is important that you view the list of components and clear the data on a regular basis. See "Managing Lost & Found Data" on page 6.

To change Lost & Found tracking, select **Enterprise Options** from the *Tools* menu in the ZENworks Asset Management Manager.

Active Directory Integration (optional)

If you have demographic data in an Active Directory source, you can configure a scheduled task to update specific ZENworks Asset Management fields with this data. Active Directory tasks are configured from the *Management* tab of the ZENworks Asset Management Manager.

Hint: *Include the scheduled time and a brief description in the name of the task, so that you can easily identify it in the list of scheduled tasks displayed on the* Tasks *tab of the Process Control Panel*.

This version of ZENworks Asset Management does not currently support Novell eDirectory™.

Regular Tasks

The following tasks are suggested for maintaining database integrity:

Identifying Workstations That Do Not Have the Client Installed

The *ZENworks Asset Management Client Status* report displays those workstations with the ZENworks Asset Management Client installed as well as those on which it is not installed. The report is located in the *Reports* folder of the Web Console *Network Discovery* tab. To keep this information up to date, you should schedule regular Network Discovery tasks for all subnets. See "Network Discovery Tasks" on page 11.

Identifying Workstations with the Client Installed That Have Not Been Scanned

To identify workstations with the ZENworks Asset Management Client installed that ZENworks Asset Management has not yet scanned, create a Workstation Query and use the filter **Inventory Type = Not-Yet-Scanned**. Suggested fields for the layout include *Create Date*, *Client Is Connected*, *Disconnection Time* and *Workstation Name*.

The field *Create Date* indicates when the client first connected to the Collection Server. Check the following:

- **Is the client currently connected?** If not, when was it last connected? (Check the *Disconnection Time* field.)
- **Schedule(s)**. Verify that the workstation is covered by one of the schedules assigned to its Collection Server. Make sure to check the *Workstation* tab of the option set(s) as well as double-check the schedule. See "Client Status Fields in Query Browser" on page 17.
- **View Detailed Status**. Check if the client state is **Invalid**, which would indicate that the client cannot be updated and therefore has not been scanned. See "Checking Client State via Process Control Panel" on page 17.

Identifying Workstations Not Scanned Recently

The Web Console includes a report you can use to quickly identify the number of workstations that were not scanned in a recent inventory cycle. The *Last Scan History* report is located in the *Admin* folder of the Web Console *Reports* tab.

From the ZENworks Asset Management Manager, you can create a Workstation Query and filter on **Last Successful Load Date**. Suggested fields for the layout include *Workstation Name*, *Last Successful*

Load Date, *Client Is Connected*, *Disconnection Time*, *Checked Out* and *Check In/Out Time*.

If the value for the field *Client Is Connected* is **Yes**, determine the following:

- Is the workstation being scanned right now? If so, the value in the *Checked Out* field will be **Yes**.
- Is the client state **Invalid**? This would indicate that the client cannot be updated and therefore cannot be scanned. See "Checking Client State via Process Control Panel" on page 17.

Note: *The Service Pack 2 update for Windows XP will prevent the client from getting updates from the Collection Server. These workstations will display as Invalid in* View Detailed Status. *Novell has issued a Tech Note to address this information, which can be found on the Novell support Web site.*

If the value for the field *Client Is Connected* is **No**, use the *Disconnection Time* field to determine the last time the client was connected with the Collection Server. It could be that the workstation is no longer in your environment or hasn't been used since that date.

Identifying and Deleting Old Workstation Records

To identify old workstation records, create a Workstation Query and use the filters **Client Is Connected = No** and **Disconnection Time < *date of your choice***. Suggested fields for the layout include *Workstation Name*, *Last Successful Load Date*, *Client Is Connected* and *Disconnection Time*.

To delete one or more workstation records, select the row numbers, right-click and select **Delete**.

Managing Lost & Found Data

If you choose to load Lost & Found data, you will need to regularly check and identify the associated components and delete them from the database. It is also important to exclude Lost & Found data from any queries and custom Web reports that you run. Add **Inventory Type! = Lost & Found** to your filters. (The data is automatically excluded from ZENworks Asset Management Manager Reports and the standard Web reports.)

To display a list of all software components in the Lost & Found, follow these steps:

- **Step 1**. In the ZENworks Asset Management Manager, click on the *Queries* tab and expand the *ZENworks Asset Management Queries* and then *Component* containers. Double-click **Lost and Found Components** to open the query.
- **Step 2**. Add **AND** to the first line of the filter statement.
- **Step 3**. On the next line, select **Product Type** for the field, leave = for the operator, and select **Software** for the value (Product Type = Software). To select the field **Product Type**, first click on the field **Product Field(s)** in the field list.

To display a list of all hardware components in the Lost & Found, use the same query as above, but modify the filter on the second line by changing the operator to != (for example, **Product Type != Software**). To delete components, select the appropriate rows, right-click on the row number column and select **Delete**.

Periodic Tasks

In order for ZENworks Asset Management to track your hardware and software assets accurately, you must periodically update the product and download new and relevant information from the Novell Web site.

Upgrading Novell ZENworks Asset Management

Version updates are released periodically. These upgrades generally include new features as well as improvements to the existing functionality of ZENworks Asset Management.

Please keep the following in mind:

- **It is vital that you back up your ZENworks Asset Management database and the file store prior to applying an upgrade.**
- **Once the upgrade process has started, DO NOT interrupt the process.** There is no backup process for the upgrade path. If you do interrupt the process, you will need to restore the database and file store and then reapply the upgrade.
- **If the process does not continue after you are asked about stopping all ZENworks Asset Management services, do not cancel the upgrade.** Please contact Technical Support at that point. (If you do cancel the upgrade, the database accounts will be locked. This is easily remedied: Technical Support has a utility to unlock the database so that you can continue with the upgrade process.)

Version upgrades are applied from a location that is central to your ZENworks Asset Management installation: usually from the workstation or server at which the original installation was performed. These automated update processes will update the ZENworks Asset Management database and file store, which will in turn trigger updates to ZENworks Asset Management applications (Collection Servers, Task Servers, and Manager) and the client applications. These updates are pushed out automatically without the need to visit any systems in the field.

In most cases, version updates can be applied in an hour or less. The actual distribution time depends on the available network resources.

Reading the Release Notes

After you have upgraded to the newest version of ZENworks Asset Management, it is a good idea to read the Release Notes. A shortcut to the Release Notes is created in the ZENworks Asset Management Program Group.

Checking Web for Tech Notes and Utilities

The Novell Web site *Support* page has a number of Tech Notes and utilities that you can download. You may want to check this site occasionally for new information.

ADDITIONAL FEATURES

Running Inventory from the Command Line

The option to run the inventory using a command line argument is as follows:

- **Scan Now**. When you run the client executable (**c:\Program Files\Novell\ZENworks Asset Management\Bin\c*client*.*exe***) with the command line argument **scannow**, the workstation is scanned using an existing Collection option set.

- **Scan Now and display Collection Editor**. Run the client executable with the command line argument **scannow:edit** when you wish to display the Collection Editor regardless of the Collection option set configurations.

CONFIGURATION OPTIONS

This section reviews the configuration options for Collection Servers, Network Discovery tasks and the inventory process.

Collection Server

Details follow on the configuration options for Collection Servers.

Client Reconciliation/Differentiation Settings

As mentioned under "Maintenance Tasks," reconciliation and differentiation settings control how ZENworks Asset Management deals with new Workstation IDs (WOIDs). When the client first starts and does not have a WOID in the registry, ZENworks Asset Management uses certain values (in the order presented below) to determine if the client's workstation is already in the database:

- Serial number
- Network Interface Card (NIC) address
- NetCensus Config ID
- Workstation name

The **Differentiate By** option allows ZENworks Asset Management, using the system serial number, to verify that the unique WOID is not being used by another record in the database (a condition called "crosslinked workstations").

To specify which of the values from the list above ZENworks Asset Management should use, modify the options on the *Reconciliation* tab of the Collection Server.

Hint: *If you want to track workstations as they are delivered (prior to distribution), you can create a Manually Entered Workstation (MEW) for each workstation. At a minimum, you need to enter the workstation name and serial number for each MEW. Then, as long as* ***Serial Number*** *is selected as a* Reconciliation *option for your Collection Servers, ZENworks Asset Management automatically converts the MEW into a workstation once the client is installed and the workstation is scanned.*

Throttling the Collection Server

You can change the thread priority of both the Unloader and Loader processes of the Collection Server so that each process becomes a lower priority for the CPU. At normal priority, the processes use the resources available; at lower priority, they yield to other processes. The thread priority is set individually for each Collection Server.

To change the setting, follow these steps:

- **Step 1**. From the ZENworks Asset Management Manager, open a Collection Server and click on the *Advanced* tab.
- **Step 2**. The options for priority are **Normal**, **Below Normal**, **Low** and **Idle**.

Note: *If you choose* ***Idle****, the Unloader and Loader run only if no other processes are running on the workstation.*

Configuring the Collection Server to Manage More Clients

You can also change the number of threads associated with the four processes involved in managing the Collection Clients. Loader and Unloader connections are used during an active scan, Client Connection threads are used at all times and Updater threads are used after you have upgraded ZENworks Asset Management (applied a PRU, added product definitions or applied a version upgrade or any client updates).

- **Increase the number of clients processed during inventory**. You can increase the Loader and Unloader connections to increase the number of database connections and threads dedicated to these processes. Each thread requires an additional database connection, but is released when no longer needed. The Collection Server creates additional threads as they are needed.
- **Increase the number of clients handled by the Collection Server**. You can increase the Client Connection threads to increase the number of database connections and threads dedicated to handling Collection Client connections, check-ins and disconnections. This option uses dedicated database connections.
- **Increase the number of clients processed during an update**. If you want clients to update faster, increase the number of Updater threads. This option does not use database connections.

Option Sets and Schedules

Details follow on the configuration options for Collection option sets and schedules.

Checking Option Set/Schedule Settings—Via the Process Control Panel

To check which option set(s) and schedule settings are configured for a Collection Server via the Process Control Panel, follow these steps:

- **Step 1**. Select the *Option Sets* tab of the Process Control Panel and press **F5** to refresh. Look for the option set(s) and schedule settings with the **Standard** option set type.
- **Step 2**. Right-click on the appropriate row and select **Edit Option Set**. You should check the *Workstations* tab to see if any filter has been set.
- **Step 3**. To check for the Schedule settings, right-click again and select **Edit Schedule**.

Hint: *You may want to name your schedules so that they reflect the actual settings. For example, instead of a New York City schedule and a Los Angeles schedule, you have* ***Weekly starting Tuesday*** *and* ***Weekly starting Thursday***.

Checking Option Set/Schedule Settings—Via Reports

You can also view a report that compares the option sets assigned to each Collection Server. The *Collection Options* report is located in the *Admin* folder of the Web Console *Reports* tab.

Synching Up the Primary User Fields with the Login Name

By default, ZENworks Asset Management will report the Login Name based on the person logged in at

the time of the scan. This field is updated at every scan. By contrast, the *Primary User* fields are only updated if blank. To change the setting so that the name is updated at each scan, follow these steps:

- **Step 1**. Open a Collection option set and click on the *Collector* tab.
- **Step 2**. Click on **Advanced** to open the *Advanced Collector Options* dialog.
- **Step 3**. Enter **PrimaryUser:Always** in the *Special Options* field.

Throttling the Collector

You can change the thread priority of the Collector so that it becomes a lower priority for the CPU while it is scanning. At normal priority, the Collector uses the resources available; at lower priority, it yields to other processes. The thread priority is set in each Collection option set on the *Advanced Collector Options* tab.

Note: *If you choose the priority option* ***Idle****, the Collector runs only if no other processes are running on the workstation.*

Collecting Values from Registry and Environment Variables

Even if you are not prompting your users to enter information during a scan, you can still gather information from the workstations. Any value that is set in a registry key or any environment variable can be harvested during the scan. The settings are found on the *Collection Editor* tab of the option set. To configure the settings, follow these steps:

- **Step 1**. On the *Genera*l tab of the option set, select **Always** in the *Run Collection Editor* section.
- **Step 2**. Switch to the *Collection Editor* tab.
  - **Step 2a**. Select **Configure** for the tab with the field to which you want to add a registry value or environment variable.
  - **Step 2b**. Enter the appropriate data in the *Default Value* field:

    Registry value: **%HKEY:<Full registry key string, including value name>**

    Hint: *To make sure the registry key string is correct, you can copy it using the Copy Key Name command in your registry editor program. When you paste the string, you will need to add the value name to the end.*

    Environment variable: **%VARIABLE NAME%**
  - **Step 2c**. In the *AutoFill* column, select **Always** to update the data at each scan.

Note: *Always save option sets from the* General *tab, to ensure that the Collection Editor is set to never display.*

Staggering Inventory Start Time

If you have multiple Collection Servers or a large number of clients connected to a Collection Server, you may wish to set different start dates for smaller groups of workstations. To do this, create multiple option sets based on system criteria (IP range, Workstation Name, Collection Server) with individual schedules set to start on different days.

Hint: *Include the scheduled time and a brief description in the name of the option set, so that you can easily identify it in the Process Control Panel.*

Network Discovery Tasks

Details follow on the configuration options for Network Discovery Tasks.

Running Network Discovery Tasks Immediately (on Demand)

To run an immediate Network Discovery task, you must identify one or more subnets or a range of IP addresses to scan. You also have the option to specify a Task Server for the task.

You can create a new Network Discovery task or modify the default task. Both of these options are available on the *Management* tab of the ZENworks Asset Management Manager in the *Public Network Discovery Tasks* branch.

To run an immediate Network Discovery task, follow these steps:

- **Step 1**. On the *General* tab, choose a specific Task Server or the **Any Available Task Server** option. You should use a local Task Server for scanning subnets at remote sites.
- **Step 2**. Click **Schedule** to verify that the task it is set to run **Immediately**.
- **Step 3**. On the *Subnet* tab, select the appropriate option for identifying the subnets or range of addresses you wish to scan.
- **Step 4**. If you want to save these settings for future use, click **Save**.

Hint: *Include the time and a brief description in the name of the task you create, so that you can easily identify it in the list displayed on the* Tasks *and* History *tabs of the Process Control Panel*.

- **Step 5**. Click **Submit**. You can check the status of the task on the *Tasks* and *History* tabs of the Process Control Panel.

Scheduling Network Discovery Tasks

When you schedule Network Discovery tasks, consider doing so during the day, when workstations are likely to be turned on. If you are adding multiple subnets to the task, make sure that all subnets can be scanned within working hours. A class C subnet can take from 15 to 45 minutes to scan. You can calculate the time a Network Discovery task takes to run in your environment by looking at the start and end times for a completed task on the *History* tab of the Process Control Panel.

To schedule a Network Discovery task, follow the steps presented above in "Running Network Discovery Tasks Immediately (on Demand)," but set a frequency for the scheduled task in **Step 2**.

For information on using Network Discovery in conjunction with the ZENworks Asset Management Remote Client Install utility, see "ZENworks Asset Management Remote Client Install," which follows.

ZENworks Asset Management Remote Client Install

You can use the ZENworks Asset Management Remote Client Install utility to remotely manage your ZENworks Asset Management Clients. Use it to install, uninstall or reinstall clients.

You can check the status of your new clients in two ways:

- Via the Process Control Panel. (See "Checking Client State via Process Control Panel" on page 17.)
- Via a query browser. (See "Workstations Being Scanned" on page 14.)

Remote Client Install—Authorization Formats

The *Username* field in the *Authentication* section of the *Install Settings* dialog can take any one of four forms:

- Empty: uses the default access permissions of the currently logged-on user
- {username}
- {domain\username}
- .\{username}: uses the account identified by username using the remote workstation's account manager (the target workstation)

Note: *The ZENworks Asset Management Client Status report will not be updated until the next Network Discovery task for that subnet.*

Remote Client Install—with Network Discovery Results

To use the Remote Client Install utility in conjunction with Network Discovery, follow these steps:

- **Step 1**. Run a Network Discovery task to identify workstations that do not have the client installed.
- **Step 2**. Run Client Remote Install from the Tools menu in the ZENworks Asset Management Manager:
  - **Step 2a**. Browse to the *Client Not Found* branch under *Network Discovery*.
  - **Step 2b**. To select all workstations in a subnet, expand that subnet and then click and drag the subnet name to the right frame.

    Note: *If any workstations have registered with the database since the Network Discovery task, they will show as* **Registered** *in the Status column and will not be selected.*
  - **Step 2c**. Deselect any workstations to which you do not wish to install the client.
  - **Step 2d**. Click the green play button or select **Start Install** from the *Install* menu. You can track the progress of the installation in the *Status* column.

Installing to Select Workstations

You can use the Remote Client Install utility to install to select workstations. Follow these steps:

- **Step 1**. Select the **Add Workstation** option from the *Edit* menu.
- **Step 2**. Choose to identify the workstation by **Workstation Name** or **IP Address** and enter the appropriate value.
- **Step 3**. Enter additional workstations or select **Cancel** to return to the main window.
- **Step 4**. Click the green play button or select **Start Install** from the *Install* menu.

Uninstalling the ZENworks Asset Management Client

You can also use the Remote Client Install utility to remove the ZENworks Asset Management Client from select workstations. Follow these steps:

- **Step 1**. Add one or more workstations to the right frame of the Remote Client Install utility.
- **Step 2.** From the Install menu, select **Start Uninstall**.

Reinstalling the ZENworks Asset Management Client

You may need to reinstall the client for any of these reasons:

- A collection server was removed from your environment and you need to redirect the clients that were assigned to it to a new collection server.
- The client port is incorrect.
- The client is not connecting correctly.

To reinstall the client, follow these steps:

- **Step 1**. Select the workstations where the client needs to be reinstalled.
- **Step 2**. From the *Install* menu, select **Start Uninstall**.
- **Step 3**. Identify the Collection Server to which the selected clients will connect.
- **Step 4**. Enter the correct client port.
- **Step 5**. Click the green play button or select **Start Instal**l from the *Install* menu.

Using your existing ZENworks application to deploy the client

You may use ZENworks to silently install the ZENworks Asset Management client as follows:

- **Step 1**. Copy the setup.iss file from your collection server installation directory to the client apps directory
- **Step 2**. Run the setup executable with the —s (silent) parameter

  Example: <network_share>\FILESTORE\Setup\modules\client apps\setup.exe-s

- **Step 3.** You can also copy all of the files from the \client apps folder, including the .iss file and place them in a NAL application package (a Simple App)
- **Step 4**. Execute the installation

WORKSTATION STATUS

This section outlines a number of suggested custom queries for reporting on the current status of the ZENworks Asset Management Clients.

If you want to check on the state of your workstations during a scheduled inventory, remember to also use the **View Detailed Status** option. See "Checking Client State via Process Control Panel" on page 17.

Listing by Inventory Type

The ZENworks Asset Management field *Inventory Type* identifies how the inventory data was entered into the database:

- **Portable**. This is the inventory type if the workstation was scanned using a portable collector.
- **Manually Entered Workstation**. This is the inventory type if the workstation's details were entered manually.
- **Workstation**. This is the inventory type if the workstation—or server—was scanned automatically. See "Inventory Types" on page 18.

To view your inventory by inventory type, create a Workstation Query with no filter. In addition to *Inventory Type*, suggested fields for the layout include *Workstation Name*, *Primary User*, *Last Successful Scan Date* and *Serial Number*.

Connected Clients

To identify workstations on your network that can be scanned using the *Scan Workstation* command, you can create a Workstation Query using the filter **Client Is Connected = Yes**. Suggested fields for the layout include *Workstation Name*, *Primary User*, *Checked Out*, *Client Run as* and *Create Date*.

Clients Not Currently Connected

To identify workstations on your network that are currently disconnected and cannot be scanned using the *Scan Workstation* command, create a Workstation Query using the filter **Client Is Connected = No**. Suggested fields for the layout include *Disconnection Time*, *Workstation Name* and *Last Successful Scan Date*.

Workstations Being Scanned

To identify workstations on your network that ZENworks Asset Management is in the process of scanning, create a Workstation Query using the filter **Checked Out = Yes**. Suggested fields for the layout include *Workstation Name*, *Primary User* and *Check In/Out Time*.

Clients Not Running As Service

To identify the ZENworks Asset Management Clients on your network that are currently running as executables, not as services, create a Workstation Query using the filter **Client Run As != Service**. Suggested fields for the layout include *Workstation Name*, *Primary User*, *Client Is Connected*, *Connection Time* and *Disconnection Time*.

To configure a client running as an executable to run instead as a service, run ***TSCSvcIn.exe***. This executable can be found in the ZENworks Asset Management Client *Apps* setup folder on the CD or in your file store.

TROUBLESHOOTING

This section describes common issues with ZENworks Asset Management client and server applications as well as possible solutions.

Client Applications

The following are suggested troubleshooting techniques for the ZENworks Asset Management Client.

Client Diagnostic Mode

Running the client in diagnostic mode can help to identify problems it is having connecting to the Collection Server. Some lines to look for include the following:

- **CCollectionServer**: Verify that the Collection Server and port settings are correct.
- **Could not ConnectForScanMode to <Workstation Name>(IP Address)**: One of the following conditions exists: the Collection Server is not available, the Workstation Name is incorrect or the remote port setting is incorrect.
- **Listener creation failure**: The local listener port is blocked, invalid or in use.

Client Running As a Service. To enter diagnostic mode when the client is running as a service, follow these steps:

- **Step 1**. Edit the file ***cps.ini:***
  - **Step 1a**. Browse to the client bin directory (***C:\Program Files\Novell\ZENworks Asset Management\Bin***) and open ***cps.ini*** with Notepad.

- **Step 2a**. Add the line **diagnostic=1** at the end

- **Step 2**. Restart the ZENworks Asset Management Collection Client service.

To exit diagnostic mode, remove *diagnostic=1* from ***cps.ini*** and restart the service.

Client Running As an Executable. To enter diagnostic mode when the client is running as an executable, run "***C:\Program Files\Novell\ZENworks Asset Management\Bin\cclient.exe diagnostic***".

To exit diagnostic mode, run ***C:\Program Files\Novell\ZENworks Asset Management\Bin\cclient.exe***.

Collector Diagnostic Mode

Running the collector in diagnostic mode generates a diagnostic workstation inventory file (WIF) that ZENworks Asset Management engineering can use to troubleshoot issues with the collector. This WIF is not loaded into the inventory database. Use under the direction of Technical Support.

- **Step 1**. Create or edit the file ***options.txt*** in the client bin directory (***C:\Program Files\Novell\ZENworks Asset Management\Bin***).
- **Step 2**. Add the line diagnostic to the file.
- **Step 3**. Initiate a scan on the workstation. See "Running Inventory from the Command Line" on page 7.
- **Step 4**. When the scan is complete, send the resulting WIF to *your Novell Technical Support contact*. The file can be found in ***C:\Program Files\Novell\Asset Management \Bin\InBoxCC***.
- **Step 5**. Remove the line diagnostic from ***options.txt***.

Collection Servers

You should regularly check the *Collection Servers* tab of the Process Control Panel. The following are suggested troubleshooting techniques for the Collection Servers.

Collection Server Status Is Unavailable

If the server status is **Unavailable**, check the current event log for the Collection Server. The log file is ***ColSvrCoreEventYYYYMMDD.log*** and can be found in the *logs* directory of the Collection Server installation (***C:\Program Files\Novell\Asset Management***).

Very often a status of **Unavailable** indicates that the Collection Server cannot communicate with the file store. Verify that the logon user account (found in the *Services* applet) and password for the service are correct and have full Domain admin rights to the file store.

Collection Server Host Name _Unknown

The following are possible reasons for the Collection Server host name to display as **_Unknown**. The most common causes are listed first.

- **The service account used to start the Collection Server does not have full rights to the file store.** If the file store is in another domain, there needs to be a two-way trust. Verify that the logon user account and password for the service are correct and have full Domain admin rights to the file store.

- **The Collection Server is not using TCP/IP to talk to the database (most likely it is Named Pipes instead).** Try changing to TCP/IP by creating a dummy Data Source Name (DSN) or editing the ZENworks Asset Management Reports DSN. See "ZENworks Asset Management System DSN Configuration" on page 19.
- **The ZENworks Asset Management Manager is not able to resolve the host name of the Collection Server to a valid IP address.** Check the Domain Name System/Windows Internet Name Service (DNS/WINS) server.
- **The Collection Server is not using port 5000 and its operating system is Windows XP or Windows 2000.** Try changing the port to 7460. (Contact Technical Support first for caveats.)
- **There is a known issue with the file *NTWDLIB.DLL*.** ZENworks Asset Management uses an application programming interface (API) called DB-Library (DB-Lib) to access SQL Server. However, DB-Lib is no longer updated or maintained by Microsoft, and with Windows XP the DLL that implements that library (***ntwdblib.dll***) is no longer included in the OS. Please contact Technical Support.

Task Servers

It is also a good idea to regularly check the *Task Server*s tab of the Process Control Panel. The following are suggested troubleshooting techniques for the Task Servers.

Task Server Status Is Unavailable

The *Task Servers* tab of the Process Control Panel indicates Task Server status. If the status is **Unavailable**, check the current event log for the Task Server. The log file is ***TaskServerCoreEventYYYYMMDD.log*** and can be found in the *logs* directory of the Task Server installation (***C:\Program Files\Novell\ZENworks Asset Management)***.

Very often a status of **Unavailable** indicates that the Task Server cannot communicate with the file store. Verify that the logon user account and password for the service are correct and have full access to the file store.

Printers Not Available

To identify which printers are available for scheduled print tasks, you can view the Task Server settings from the Management locator tab (expand the *Public Task Servers* container and double-click the Task Server). The printers available to the Task Server are those that are set up for the workstation on which you installed the Task Server and that are part of the profile of the user account that runs the Task Server service.

Note: *If you add or delete a printer on a Task Server, you must stop and restart the Task Server service before the change is reflected in ZENworks Asset Management. If you rename a printer, you must also stop and restart the service or a print task will fail.*

GENERAL INFORMATION

This section defines a variety of status and descriptive fields used by Novell ZENworks Asset Management. It also outlines how to create and edit the ZENworks Asset Management System DSN.

Checking Client State via the Process Control Panel

Follow these steps to check the ZENworks Asset Management Client state using the Process Control Panel:

- **Step 1**. Select the *Collection Servers* tab of the Process Control Panel and press **F5** to refresh.
- **Step 2.** Right-click on the appropriate row and select **View Detailed Status**.
- **Step 3**. Sort the *Client State* column by clicking on the column heading.
  - **Connecting**. The client is connecting to the Collection Server.
  - **Disconnecting**. The client is disconnecting from the Collection Server.
  - **Invalid**. There is a possible update failure or an invalid client connection.[1]
  - **IP Disabled**. The Inventory Process is stopped.
  - **Offline**. The workstation has not checked in within the check-in interval and is assumed to be not running.[2]
  - **Ready**. The client is ready for an action such as updating or scanning.
  - **Scanning**. The workstation is being scanned.
  - **Updating**. Files are being transferred to the workstation.

Client Status Fields in the Query Browser

Workstation fields include the following:

- **Check In/Out Time and Checked Out**. When a workstation is being inventoried, the *Checked Out* value is **Yes**. The field *Check In/Out Time* is updated when the data is loaded into the database.
- **Create Date**. This field displays the date and time when the client first registered with a Collection Server or when a Manually Entered Workstation/Stockroom was created.
- **Last Successful Load Date**. This field displays the date and time when the inventory data was loaded into the database. This value is updated upon completion of the load process.
- **Last Successful Scan Date**. This field displays the date and time when the inventory data was last scanned. This value is updated upon completion of the load process.

Detailed Connection Information Fields

The steps of the inventory process follow:

- **Step 1**. Client is checked out.
- **Step 2**. Client is updated (if update is pending).
- **Step 3**. Inventory data is unloaded.
- **Step 4**. Inventory scan runs.
- **Step 5**. Inventory data is loaded.
- **Step 6**. Client is checked in.

At this point, the fields Last Modified, Last Successful Scan Date and Last Successful Load Date are all updated.

Other fields include the following:

- **Client Run As**. This field indicates how the client is currently running. Values for this field are **Executable**, **Service** or **Unknown**.
- **Client Is Connected**. This field indicates whether the ZENworks Asset Management

[1] *One likely cause for the* **Invalid** *client state is that something is blocking incoming communications to the workstation (a firewall on the client side or a blocked port or active virtual private network ([VPN] client). The client is able to connect to the Collection Server, but the Collection Server is blocked from sending information (such as the update files). Another possibility is that the client* ***catalog.ini file*** *is corrupted, in which case the solution is to delete the file and restart the client or to use the ZENworks Asset Management Remote Client Install utility to remotely reinstall the client.*

[2] *The* Offline *client state can occur when a workstation goes into sleep mode or if there is an ungraceful termination of the client. When the workstation "wakes up" or is restarted, the client will connect with the Collection Server and the state will change accordingly.*

Collection Client has connected to a Collection Server.

- **Connection Time**. The connection time is set when the *Client Is Connected* value is **Yes**. It is set to the null value of 1/1/80 when the client is disconnected.
- **Disconnection Time**. The disconnection time is set when the *Client Is Connected* value is **No**. it is set to the null value of 1/1/80 when the client is connected.
- **Update Begin Time and Update End Time**. These fields display, respectively, the start and end times of the client's last update. A client update occurs after any of the following activities:
  - A PRU is applied.
  - Local products are created and the inventory process is recycled.
  - User defined fields are created.
  - Collection option sets are created or updated.
  - A Collector update is applied.
- **Unload Begin Time and Unload End Time**. These fields display, respectively, the start and end times for the unloading of the workstation data.
- **Collection Begin Time and Collection End Time**. These fields display, respectively, the start and end times of the last successful scan.
- **Load Begin Time and Load End Time**. These fields display the start and end times for the loading of workstation data.
- **Last Modified**. The value in this field is updated when a load has completed or when a change is made to any data related to the workstation (user, workstation or component fields).
- **Platform Type**. This field displays the scanned workstation's OS type. Values are **Common Windows Only**, **Unknown**, **Windows 32** and **Windows 64**.
- **TCP Port**. This field displays the port number from which the client is communicating.

Inventory Types

The ZENworks Asset Management inventory type identifies how the inventory data was entered into the database. Possible values for this field follow:

- **Lost & Found**. This is a stockroom that ZENworks Asset Management creates and maintains. It is a good idea to filter out the Lost & Found in all queries. However, Lost & Found data is automatically excluded from ZENworks Asset Management Reports and from the Web reports. See "Database Purge" on page 4.
- **Manually Entered Workstation (MEW)**. This is a workstation that you enter into the database manually, generally because ZENworks Asset Management cannot scan it.
- **Network Server**. This is a Novell server that has been inventoried using the Scan Network Server wizard in ZENworks Asset Management.
- **Not-Yet-Scanned**. This is a workstation that has registered with a Collection Server but has not yet been inventoried.
- **Portable**. This is a workstation that has been scanned using the portable collector (CD-ROM or diskette-based inventory).

- **Stockroom**. This is a stockroom that is used to group non-discovered items for organizational reasons. Examples include networked printers, spare computer parts or items currently in repair. A stockroom is manually entered and maintained.
- **Workstation**. This is a Windows/Intel system that ZENworks Asset Management inventories automatically. Most PCs, desktops and servers are of this type.

Novell ZENworks Asset Management System DSN Configuration

The ZENworks Asset Management System DSN is called *ZENworks Asset Management Reports*. Things to check for in the DSN configuration screens follow:

- **Step 1**. Verify that the correct database server name to which the SQL Server should connect is specified.
- **Step 2**. SQL Server authentication should be selected. Use the ZENworks Asset Management Database Operator (DBO) login ID (default is **NCSystem**) and password.
  - **Step 2a**. Click **Client Configuration** to check the Network Library Configuration.
  - **Step 2b**. For Network Libraries, **TCP/IP** should be selected. The port may need to be specified, rather than dynamic.
- **Step 3**. Select your database name for the default database.
- **Step 4**. Once you have reviewed these settings, make sure to test the datasource.

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